



Emissions Inventory Webinar

2018 Data
February 14, 2019

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Overview

- Welcome
- What's New
- First things first
- Inventory
- Wrap up



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Welcome

- Webinar
 - Mostly review of inventory data gathering this year
 - Limitations – approx 30 sec delay
 - Send questions to: ei_submittals@dhec.sc.gov
 - We'll work them in as practical
 - Materials (powerpoint) posted to SLEIS homepage (sleisprod.dhec.sc.gov/sleis) and hopefully EI webpage (<https://scdhec.gov/environment/air-quality/compliance-monitoring/emissions-inventory>)



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What's New

- Not anything with SLEIS!
 - SLEIS 2.0 probably next year/cycle
- Staff
 - Retirements and exits
 - Section Contact list at end of presentation
- MATS testing
- Stationary Reciprocating Internal Combustion Engine (RICE) factors and emissions



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First things first – why are you here?

Reporting Requirements:

- Title V Facilities will submit their Emissions Inventory on a schedule based on the POTENTIAL amount of pollutants emitted
- Inv Type A Sources – submit every year:
 - SO_x, NO_x, CO ≥ 2500 tons/yr,
 - VOC, PM₁₀, PM_{2.5}, NH₃ ≥ 250 ton/yr
- All other Title V Sources – submit every 3 years (2014, 2017, 2020, etc.)



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First things first – How do I get started?

- Register with SLEIS / register for reporting cycle
 - Must register each cycle in which you have to report an inventory
 - Electronic Subscriber Agreement (ESA)
 - Existing users still have SLEIS account and PW but 2018 Inventory report stub will not be created until ESA processed
 - Allows us to keep SLEIS and facility associations “clean” by refreshing them regularly



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First things first – don't forget

- Support requests – email: ei_submittals@dhec.sc.gov
- SLEIS Videos
 - <https://www.youtube.com/playlist?list=PLqGWmyz3QMps1NO4OioA9-X6QXjVGIuR4>
- Confidential – two copies of supplemental info: public & conf
 - Confidential flag only exists on Process Emissions level
 - Setting confidential flag to 'yes' prevents the emission factor and throughput from being made public



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First things first – don't forget

- Notes, Notes, Notes!
 - Make note of non-standard decisions
 - When you accounted for an emission elsewhere
 - Something temporarily didn't operate
 - Etc.
 - Help us understand what you did
 - Use Comments sections in SLEIS – multiple locations/opportunities
 - Anything helps – bullet lists, etc., doesn't have to be complicated
 - In addition to Supporting Documentation



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First things first – don't forget

- Complete submittal:
 - Electronic Signature/Submission completed in SLEIS
 - Supporting Documentation
 - Facility General sheet - mark with any changes or "No Change"
 - List of Insignificant Activities
 - The above three items can be attached electronically in SLEIS (preferred!)
- Inventory submittal not complete and on-time unless all have been received by us (or postmarked) by due date: March 31, 2019.



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Inventory

- Get your permits - active operating, any construction permits not in OP which operated during reporting year (2018)
- SLEIS reports
- Any reports and/or supplemental sheets from last inventory (i.e., 2017 review)
 - Contact you inventory reviewer if you need any of these.



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Inventory – what to report?

- All permitted Emission Units
- All associated processes
- All regulated pollutants
- All Insignificant Activities (at least once)



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Inventory – what to report? - HAPs/TAPs

- Report if you emit any of these HAPs at any level (HAPs of Primary Concern:
 - <https://www.scdhec.gov/sites/default/files/docs/Environment/docs/HAPs%20of%20Primary%20Concern.pdf>
 - All other HAPs and TAPs should be reported if the facility wide total of that HAP or TAP exceeds 200 lbs
 - <http://www.epa.gov/ttn/atw/orig189.html>
 - <http://www.scdhec.gov/Agency/RegulationsAndUpdates/LawsAndRegulations/Air>
- All HAPs/TAPs are reported at the Process Emissions Level – no facility-level reporting available



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Inventory – what to report? - HAPs/TAPs

- TRI
 - Check your amounts reported to TRI vs EI
 - TRI should be close/equal to EI where practical
 - We realize that there are some de minimis reporting levels for TRI
 - EPA asks us for explanation when TRI is significantly different from EI



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Facility General

- Facility general sheet must be sent in with supporting documentation, marked with any changes – email is ok, attach in SLEIS preferred
- Mark-up pre-populated sheet with any changes
- No changes currently allowed in SLEIS “Facility General” screen
- Must return Facility General page we sent you (not screenshot of SLEIS) marked-up appropriately by March 31, 2019 (via attach in SLEIS, email, or postmark 3/31/2019 via postal delivery)



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Emission Units

- Reported in terms of your current permit
- Be sure to review EU Type code in SLEIS – change/update accordingly
- Operating Status/Status Date – be careful if EU shutdown in EI year or prior



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Fuel Burning

- Remember to enter fuel amounts in appropriate units, i.e. kgal, mmcf, tons, mmbtu
- Throughput units are driven by SCC and are found in the emission factor table
- Factors in SLEIS are dependent on SCC units – important!
- Multiple factors – specific to boiler type, burner type, etc. – multi-factor spreadsheets available in SLEIS



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Evaporative Loss

- Painting, coating, cleaning operations, etc.
- Calculate emissions using the material balance method
- Spreadsheets, supporting docs – attach in SLEIS
- HAP/TAPs...
 - Make sure your TRI emissions are the same as your Emission Inventory emissions!!!



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Tanks

- When is detailed storage tank information needed?
 - Tank's capacity is greater than 38.7 cubic meters (10,000 gallons), *or*
 - Stores a hazardous air pollutant, *or*
 - Emits one or more HAPs
- Detailed storage tank information is **not** needed for:
 - Pressurized storage tanks containing fluids such as liquid petroleum gas (LPG), liquid natural gas (LNG), natural gas, or inert gases



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Tanks

- Tank emissions can be estimated using EPA program TANKS 4.09D
 - Is based on the emission estimation procedures from Chapter 7 of EPA's AP-42
 - <http://www.epa.gov/ttn/chief/software/tanks/index.html>
 - EPA has discontinued support/development of TANKS 4.09D due to the model not being reliably functional on Windows Vista or Windows 7 computers
 - If you wish to use other tank estimation software methods, please contact Chad Wilbanks for approval
 - Can do manual calcs with AP-42 Chapter 7 algorithms if desired



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Other Source Types

- Landfill calculations:
 - Use LandGEM model and formulas in AP-42 Chapter 2.4
- Wastewater Calculations
 - Use Water9 model
- See: <https://www.epa.gov/air-emissions-factors-and-quantification/emissions-estimation-tools>



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Insignificant Activities

- Traditionally listed on your Title V Permit
- New permits do not list Insignificant Activities, but contain requirement to maintain list onsite
- You must submit that list with your supporting docs! (can be attached electronically in SLEIS – preferred)
- Emissions from all Insignificant Activities must be reported at least once
 - If all not previously reported, need to report missing IAs in this Inventory!



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Calculations

- Rule effectiveness/control device downtime – take into account when control equipment did not operate as designed – contact EI staff if you have questions
- Emission estimates are required for all regulated air pollutants, including but not limited to: criteria, 112R, HAP, and TAP pollutants
- Include any regulated pollutants in your calculations that have been missed in past inventories



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Calculations

- The order of preferred methods from best to least desirable are:
 - Material balance calculations (method code 3)
 - Continuous Emissions Monitor (CEM) data (method code 1)
 - Bureau approved and reviewed source test emission factors (method codes 4, 10 (MATS))
 - AP-42, FIRE, or RICE Emission factors (method codes 8, 9, 29)
 - In-house source test (method code 2)
 - Other (method codes 12, 32)



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Method Code 10 - MATS

- Applicable if you have a factor derived from a Bureau-approved MATS (Mercury and Air Toxics Standard) source test
 - Mainly applicable to EGUs
 - You will need to enter the pollutant emission factors in SLEIS
 - Throughput units and factor units must match
 - Contact Chad Wilbanks if you have questions.



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Stationary RICE – factors and emissions

- New optional procedure to estimate emissions from Stationary Reciprocating Internal Combustion Engines.
 - Choose factors from AP-42 or 40 CFR 60/63
 - Spreadsheet Tool developed to help pick pollutants/factors
 - Companion document to explain intricacies



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Stationary RICE – factors and emissions

- Spark Engines
 - AP-42 pollutants factors are still preferred
 - Spreadsheet Tool contains these
- Compression Engines
 - Choose AP-42 factors or 40 CFR 60 factors
 - Both are in Spreadsheet Tool



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Stationary RICE – factors and emissions

- If you use the 40 CFR 60 factors you must:
 - Enter the pollutant/factor(s) in SLEIS manually (Process Emissions)
 - Include HAP compliment
 - Use Method Code 8
 - Enter throughput with same units as factor(s) (i.e., lb/MMBTU or lb/HP-hr)
 - All pollutants/factors for the process must use the same throughput units, i.e. lb/MMBTU or lb/HP-hr – no mixed units within polls/factors per process



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Stationary RICE – factors and emissions

- Enter the following in the Process Unit Comments section (when using 40 CFR 60 factors):
 - Cylinder displacement in liters
 - Horsepower rating
 - Subject to NSPS
 - Year of manufacture
 - Use type (emergency, non-emergency, fire pump, etc.)



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Pitfalls / tips

- Re-check your throughput values especially for fuels
 - Decimal place errors cause big swings in emissions; MCF vs MMCF
- If process has PM-fil, it must also have at least PM10-fil as well, PM2.5-fil also if possible
 - PM2.5-fil should not be > PM10-fil, and PM10-fil should not be > PM-fil
 - Conversely if a process has PM10-fil/PM2.5-fil it must also have PM-fil/PM10-fil
- Total metals in process should be < total PM-fil in process



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Pitfalls / tips

- VOC total per process must be equal or greater than sum of all VOC compounds in process
- If Insignificant Activity has no regulated pollutants (i.e., water tank, etc.) please let us know so we won't continue to ask about it
- Do "sanity check" on overall emissions to uncover obvious data entry errors
 - Please explain any valid large swings vs previous inventories



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Pitfalls / tips

- Please explain/comment processes that are temporarily shutdown vs permanently shutdown



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More thoughts...

- Method Code definitions can be found on SLEIS homepage
- Emission units, release points, controls, etc. on your current permit that are not listed in SLEIS must be added to the SLEIS database
 - Contact your individual emissions inventory person if you have questions
- Ammonia, condensable organics, and organic and elemental carbon are precursors to PM 2.5
 - Report any Ammonia, PM 2.5, or its precursors



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Finishing up

- After SLEIS data entry and Certifier electronic signature/submittal, these things are needed (by 3/31/2019) to have a complete inventory submittal:
 - Supporting calculations/documentation of emissions
 - Facility General page marked with any changes
 - List of Insignificant Activities
- All of the above can be attached electronically in SLEIS – PREFERRED!
- Confidential – MUST send “public” (sanitized) copy of supporting docs AND “confidential” copy of docs



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Resources

- SLEIS homepage
 - <https://sleisprod.dhec.sc.gov/SLEIS>
- BAQ-EI homepage
 - <https://www.scdhec.gov/environment/air-quality/compliance-monitoring/emissions-inventory>
- SLEIS videos
 - <https://www.youtube.com/playlist?list=PLqGWmyz3QMps1NO4OioA9-X6QXJVGluR4>



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Resources

- US EPA Clearinghouse for Inventories and Emissions Factors
 - <https://www.epa.gov/chief>
- NIST Chemistry Web Book
 - <http://webbook.nist.gov/chemistry>
- EPA's Substance Registry System
 - <http://www.epa.gov/srs>



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Resources

- EPA tools (LandGEM, Water9, TANKS, etc.)
 - <https://www.epa.gov/air-emissions-factors-and-quantification/emissions-estimation-tools>



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Comments/survey

- Email ei_submittals@dhec.sc.gov with comments on webinar
- Thanks!



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